

# Helium-3

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The man entered the valley by bounds, leaping up as if to touch the stars.

On Earth, a lizard might have darted away at his presence. Birds might have noted it and taken to wing, while a rabbit, unaware of the habits of mankind, might have merely observed. Then life in the valley would go on, but nervously, with unnatural quiet. Care would be taken to watch the strange, alien creature and quickly move away if it came near.

On Earth, in such a valley, the man might have cast a line into the river flowing through the canyon, and drawn up a fish. He could then have cleaned the fish and eaten it.

But here there were no lizards, rabbits, birds, or fish. There was no river, either, unless one counted the few bits of ice several feet below solid rock.

The man looked as if someone had decided to fit him for drainpipes. Over arms, legs, and torso was a flexible red spacesuit. But inside the drainpipes, a million little channels filled with cold water and a million little pieces of hinged lead protected the man from the instant death all around him.

He came down from his last bounce and expertly skidded to a stop in the lunar dust. The dust, unlike every prior variety of dust known to man, did not billow. Every grain flew straight and true and came to rest where it lay. The man's tracks looked like someone had shelled the Moon, with little craters of scattered dust where his feet had landed.

The man paused, surveying the valley. The sun was sinking towards the unnaturally short horizon. On Earth, the sun would be down in an hour. It would be a half moon, waning, on that blue pebble in the sky. But he had cycles of daylight left (though the shadows would be treacherous).

The man came to a decision. He turned and bounded like a kangaroo back the way he had come. And for a minute or two, there was nothing in the valley but thick dust and stillness.

But here was a challenger to silence, a knight in armor.

The little buggy, built like an insect, rose over the hill, sending ripples of eternal dust up around it, like an insect skimming across a pond. The first thinkers to study this world were not far off when they termed the darkness "seas"—if seas without sails. A dust particle or a water molecule—only a question of scale.

The buggy had eight wheels, four on each section. It was 11 meters long, and its wheels tracked slowly forward. Glinting panels hung on the back module, and two windows, sealed at their edges, looked out the front.

Inside, behind those windows, a grizzled man came into view. He was coughing, wheezing, and cursing the Moon's dust in between. No dust clung to the windows or walls, thanks to the Greenbelt coating, so it drifted within.

The man vanished behind the semisphere of the front. A moment later, he rose again with a bit of paper. He gingerly gripped the paper by one corner, where it was dark.

The rest of the paper was white, but as he swung it through the air, it darkened. The dust stuck to it until it was a deep gray with crumbs and bits of hair sticking out. The man wheezed a few more times, then settled himself back to the controls.

He drove carefully over a small hill and into the valley. Even before the vehicle came to a stop, the stillness stayed. Silence ruled this world, as it had for eons. For a time, after the Moon's violent birth, it had been an outpost of sound. But when the primordial plasma had spread itself out too far to carry sound, that was the end of sound's dominion here, and sound retreated to its few petty territories, specks in the cosmic night—worlds with atmospheres.

A moment later, the pipe man was back, wandering outside the lander.

The man unhooked a nozzle from his back, gleaming in the combined light of sun and planet. He pushed the nozzle into the dirt and braced his feet, as if expecting to be hurled through the air (or lack thereof).

For one second, there was air. Sound. Distortion of direct light. Whirling dust. As its price for tearing into the lunar surface, the drill had briefly provided the Moon that which its parent world had always basked in. And but for that brash, reckless protoplanet, it would be enjoying it for the next two billion years. Then the puff was gone and space retook that ground.

From the nozzle, air had shot out and along the ground, then back up into a pipe all around it. The pipe was slightly longer than the nozzle, and so the air shoved rock and dust up the pipe and into the tank.

Then the man did it again and again, and each time gave air to that inch of dust. It was only carbon dioxide, but it did its job.

His backpack flashed lights. It analyzed and dissected the soil, but the man was no longer paying attention.

Instead he began to speak on his suit radio. His words left his mouth, flew through the air to his helmet, whizzed through the helmet, and there died, for they could not go on. The valley never heard the man, and would not have cared if it had.

But what the man heard surprised him.

“What? It's Scott already? Damn, I can never track time in that thing. My LST clock is busted, and I can't afford to get it fixed. I can barely pay for dust paper.”

There was a long pause.

“Well, they never shoulda spun us off from NASA—those people made sure your stuff worked, took care of you.... ‘Course, those fatcats at Tranquility don't care, do they? They shoulda held onto us—yep, independence is a fine thing, but didn't need it none, did we? Anyway, what cycle is it?”

He listened, then replied, “Two. That's not bad. And LST year 71. That much I know.” \*

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\* Lunar Standard Time (see [lunarclock.org](http://lunarclock.org)). Cycle 2, day “Scott”, year 71 would be mid-December 2037 on Earth.

He started to get up and stopped, listening again.

“You just don’t want to admit I’m the life of every party. Hang on, I’ve gotta check....”

Suddenly, a green light began to blink on his wrist.

The man looked down on that little green light blinking and leapt almost to the other end of the valley. He soared through the air, flipped twice, and bounced once, sending up a ripple of dust that cut right down to the rock, and a second ripple as he came to a stop.

His helmet scraped against the hard rock as he almost drifted to his feet.

“Gonna hafta dust my damn suit again — breathe that stuff in for an hour and a half, I’ll never live to enjoy my retirement....”

Then he remembered the green light and only just managed to stop from going out of control again. He lost his balance and fell, settling slowly to a sitting position, as if through water. The Moon was just something one never got used to.

The man pressed a button on his helmet, speaking into the radio.

“Whoo-ee, it’s hee-three! Money in the bank, man!”

The first thing that occurred to him was that he could finally afford some time off.

“OK,” he said into the radio, “I *am* coming to the game next Suncycle, and if I don’t get the Lunatics three TDs, I’ll eat my helmet.”

He paused.

“Yeh, yeh, Werewolves’re always sayin’ that!”

Then, seeing the green light still flashing, he cheered again, “Hee-hee-hee three!”

The valley stifled the noise as it left his helmet—like a preacher, or a spinster, annoyed by the man’s raucousness, silently frowning its disapproval. But the man was in his own kingdom, his spacesuit. And his suit was full of chatter, as his friends lined up on the radio with congratulations—and requests.

“Yeah, of course I’ll give ya some dough. Gonna have plenty, if this is a big pocket. Gotta find out, but if it is, sure as dust I’m gonna spread the wealth around!”

The man chuckled and turned his radio off.

Inside his rover, like a one-car train, the man closed an airtight door between the two sections. He would have to vacuum the back car yet again after he had sold the helium-3, because dust would come in with it.

Then the man quickly climbed out again and bounded over his rover to the back, skidding to a stop in the dust.

The sun, despite its proximity to the horizon, hadn’t moved. There was plenty of light left, and even when the sun went down Earth would still cast its better-than-moonlight. It would be several cycles (Earth days) until the sunset.

The man quickly connected a hose to the back car. He then bounded back *over* his buggy and to the spot where he had found the helium-3. A tiny bit was escaping now, in a thin fountain.

The prospector, mumbling about wasted effort, shoved the hose down into the hole. In this gravity, after the burning-hot filament on the end of the hose came on, the gas pressure could overwhelm the weight of the hose, and it had to be shoved down to lodge it in place.

It took several hours for the man to finish. It did not matter much what the concentration was, it always seemed to take forever to root it from the rock. It was also possible the heating element was acting up again. Still talking on the radio about the fun he was going to get from the money, the man left again almost half a cycle later. He was very tired, and actually walked almost normally, so little effort went into each step.

The man got back into his buggy. The buggy made a slow, sweeping turn in the dust. When it was turned around, it began to slowly crawl uphill again.

If anyone had been watching, they would have seen all the bumper stickers stuck to the back of the thing. Many were already peeling off in the vacuum. One said “Werewolves Suck” in big letters. It was securely glued in the exact center, with a picture of a soaring football against a perfectly black sky.

The buggy ascended the ridge. Bit by bit, it came to the top and over it.

The valley was empty again, and quiet.

A year later, the largest pocket of helium-3 on the Moon was found there, a mere 50 feet from the one our prospector noticed. The two pockets had been cut off from each other millions of years earlier by the ejecta of some ancient meteor.

A huge derrick, like an oil derrick, would be erected there. Buggies, then domes, then houses dug out of the rock would be built there. Eventually, it would become a city to rival Tranquility Base, the lunar capital. Even when protium fusion became widespread, crashing the market for helium-3, it lived on.

But no matter how many people arrived, and no matter how deep the derricks dug, outside the shelters it would always be silent and lifeless—part of the far greater bulk of the universe that was, is, and will be, utterly and invariably, serene but sterile.